



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY COMPLIANCE SUMMARY REPORT



Date 3/13/23

Wheel Plant Wheelabrator North Andover
Unit 1 Unit Unit 1
Outlet Source Outlet

Date	Hour	On-Line Minutes	O2		NOx		SO2					CO			Carbon Feed		FF Temp (deg F)		Steam KLbs/Hr		
			Out Vol % Dry	Status	Outlet ppm 7%O2	Status	Outlet ppm 7%O2	Status	Inlet ppm 7%O2	Status	Removal	Status	Outlet ppm 7%O2	Status	4 Hr Block	Status	Lbs/Hr Avg.	8 Hr Block	1 Hr Avg.	4 Hr Block	1 Hr Avg.
3/13/2023	0	60	10.7		182		7		35		81		4			13		309		167.4	
3/13/2023	1	60	10.3		181		11		59		82		3			13		310		169.2	
3/13/2023	2	60	9.9		187		24		89		73		121			13		308		171.2	
3/13/2023	3	60	10.0		182		13		65		81		3	33		13		309	309	166.7	168.7
3/13/2023	4	60	9.9		196		13		58		78		2			13		309		164.3	
3/13/2023	5	60	10.2		192		15		47		68		3			13		311		168.4	
3/13/2023	6	60	11.5		199		17		40		56		3			13		309		163.8	
3/13/2023	7	60	11.6		200		10		32		68		4	3		13	13	310	310	156.9	163.4
3/13/2023	8	60	10.6		199		20		56		64		1			13		309		166.1	
3/13/2023	9	60	10.5		196		14		54		75		2			13		310		165.2	
3/13/2023	10	60	10.5		199		13		44		71		3			13		309		166.1	
3/13/2023	11	60	10.5		200		3		26		89		3	2		13		310	309	165.3	165.7
3/13/2023	12	60	10.5		199		5		27		82		2			13		309		167.3	
3/13/2023	13	60	10.1		198		0		18		100		3			13		310		166.2	
3/13/2023	14	60	10.2		201		0		23		100		4			13		309		166.6	
3/13/2023	15	60	10.5		200		1		31		97		2	3		13	13	309	309	166.0	166.5
3/13/2023	16	60	10.7		195		5		53		91		2			13		309		165.2	
3/13/2023	17	60	10.3		199		22		109		80		2			13		309		166.5	
3/13/2023	18	60	10.1		199		9		59		84		2			13		309		166.2	
3/13/2023	19	60	10.1		196		10		57		82		3	2		13		308	309	167.1	166.2
3/13/2023	20	60	9.8		190		11		53		80		1			13		310		165.6	
3/13/2023	21	60	10.3		193		15		59		75		3			13		310		169.8	
3/13/2023	22	60	11.0		191		8		37		79		4			13		309		160.4	
3/13/2023	23	60	10.6		196		10		42		76		4	3		13	13	309	310	168.5	166.1

Average: Geometric Mean Average:	195	6	OR	87	see above	see above	see above	see above
Limit:	≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean		≥ 75% Removal Efficiency	≤ 69 ppmc 4-HR Block Average	≥ 12 lb/hr 8-HR. Block Average	≤ 345 °F 4-HR Block Average	≤ 173 klb/hr 4-HR Block Average

Status Flags

- I - Invalid
- B - Bad
- C - Calibration
- M - Maintenance
- F - Offline
- P - Purge
- T - Out of Control
- E - Excluded
- ^ - Startup
- * - Shutdown



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY COMPLIANCE SUMMARY REPORT



Date 3/13/23

Wheel Plant Wheelabrator North Andover
Unit 2 Unit Unit 1
Outlet Source Outlet

Date	Hour	On-Line Minutes	O2		NOx		SO2				CO			Carbon Feed		FF Temp (deg F)		Steam KLbs/Hr			
			Out Vol % Dry	Status	Outlet ppm 7%O2	Status	Outlet ppm 7%O2	Status	Inlet ppm 7%O2	Status	Removal	Status	Outlet ppm 7%O2	Status	4 Hr Block	Status	Lbs/Hr Avg.	8 Hr Block	1 Hr Avg.	4 Hr Block	1 Hr Avg.
3/13/2023	0	60	10.6		197		5		42		87		0			14		310		167.6	
3/13/2023	1	60	10.8		199		9		50		82		0			13		310		166.1	
3/13/2023	2	60	10.9		195		10		55		81		1			14		310		163.5	
3/13/2023	3	60	10.5		197		7		47		85		0	1		13		310	310	165.3	165.6
3/13/2023	4	60	10.4		199		5		44		88		2			13		310		166.9	
3/13/2023	5	60	10.5		197		4		42		91		1			13		310		166.6	
3/13/2023	6	60	10.8		194		13		58		78		2			14		310		164.6	
3/13/2023	7	60	10.9		198		4		38		89		2	2		14	13	310	310	166.6	166.2
3/13/2023	8	60	11.0		199		6		36		83		3			11		310		167.6	
3/13/2023	9	60	11.2		193		5		37		86		1			13		310		163.7	
3/13/2023	10	60	11.1		194		10		51		80		2			13		310		166.4	
3/13/2023	11	60	10.9		197		1		27		97		2	2		14		310	310	166.1	166.0
3/13/2023	12	60	10.8		197		0		25		100		2			13		310		166.6	
3/13/2023	13	60	10.7		199		0		21		100		2			13		310		166.6	
3/13/2023	14	60	10.6		198		0		27		100		3			15		310		165.7	
3/13/2023	15	60	10.6		198		12		80		85		3	2		12	13	310	310	165.9	166.2
3/13/2023	16	60	10.7		198		0		37		99		2			10		310		167.1	
3/13/2023	17	60	10.8		197		17		92		82		2			11		310		167.3	
3/13/2023	18	60	10.7		195		5		55		91		3			12		310		167.4	
3/13/2023	19	60	11.2		193		4		43		90		2	2		13		309	310	164.3	166.5
3/13/2023	20	60	11.1		190		5		49		91		2			17		310		164.3	
3/13/2023	21	60	11.1		198		5		46		89		1			20		310		164.6	
3/13/2023	22	60	11.1		198		1		31		97		2			18		310		161.1	
3/13/2023	23	60	10.8		198		2		41		94		2	2		15	14	310	310	167.8	164.5

Average:
Geometric Mean Average:

Limit:

197	3
≤ 205 24-HR Block Avg.	≤ 29 24-HR Geometric Mean

OR

94
≥ 75% Removal Efficiency

see above
≤ 69 4-HR Block Average

ppmc

see above
≥ 12 8-HR. Block Average

lb/hr

see above
≤ 345 °F 4-HR Block Average

°F

see above
≤ 173 4-HR Block Average

klb/hr

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WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 13-Mar-2023

Plant Wheelabrator North Andover
Unit Unit 1
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

Time (hr)	1-6 min	7-12 min	13-18 min	19-24 min	25-30 min	31-36 min	37-42 min	43-48 min	49-54 min	55-60 min	Average
0	3	3	3	3	3	3	3	3	3	3	3
1	3	3	4	3	3	3	3	3	2	3	3
2	4	4	4	2	3	2	2	2	2	2	3
3	1	1	1	1	1	1	1	1	1	1	1
4	1	2	2	2	2	2	1	1	1	2	2
5	1	2	2	1	1	1	1	1	1	1	1
6	2	IC	6	IC	1	1	2	2	1	2	2
7	1	1	1	1	1	1	1	1	1	1	1
8	2	2	2	2	2	2	2	1	2	2	2
9	2	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	2	1	1	1	1
13	1	1	1	1	1	1	1	2	2	1	1
14	1	1	1	1	1	2	2	2	2	2	1
15	1	2	1	1	1	1	1	2	1	1	1
16	1	1	2	1	2	2	3	3	3	2	2
17	2	2	2	1	2	1	1	1	2	1	1
18	1	1	1	1	1	2	1	1	1	2	1
19	2	2	2	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	2	1	1	1
21	1	1	2	2	2	2	2	2	1	2	2
22	2	2	1	1	1	1	1	2	1	1	1
23	1	1	2	2	2	2	2	2	2	2	2

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown



WHEELABRATOR NORTH ANDOVER A WIN-WASTE INNOVATIONS COMPANY OPACITY REPORT



Date 13-Mar-2023

Plant Wheelabrator North Andover
Unit Unit 2
Source Outlet

Opacity is a measure of how much soot or smoke may be contained in stack emissions. The more smoke that is contained in the emissions the higher the level of opacity. Continuous opacity monitors located after all of the air pollution control equipment measure the opacity of the emissions from each boiler. Typically the human eye can not detect or see smoke that is less than 5% opacity. You won't see smoke from a modern trash-to-energy plant although in colder weather you will see water vapor condensation, similar to seeing your breath on a cold day. This is not considered opacity. We have a permit limit established by the Massachusetts Department of Environmental Protection of 10% opacity averaged every six (6) minutes.

Limit 10 %

Time (hr)	1-6 min	7-12 min	13-18 min	19-24 min	25-30 min	31-36 min	37-42 min	43-48 min	49-54 min	55-60 min	Average
0	1	1	1	1	1	1	0	0	1	1	1
1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1
6	2	IBC	5	IBC	1	1	1	1	1	1	1
7	0	0	0	1	0	1	1	1	0	1	0
8	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1	1	1	1
16	1	1	1	1	1	1	1	1	1	1	1
17	1	1	1	1	1	1	1	1	1	1	1
18	1	1	1	1	1	1	1	1	1	1	1
19	1	1	1	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1	1	1	1
21	1	1	1	1	1	1	1	1	1	1	1
22	1	1	1	1	1	1	1	1	1	1	1
23	1	1	1	1	1	1	1	1	1	1	1

Status Flags

I - Invalid C - Calibration F - Offline T - Out of Control ^ - Startup
 B - Bad M - Maintenance P - Purge E - Excluded * - Shutdown